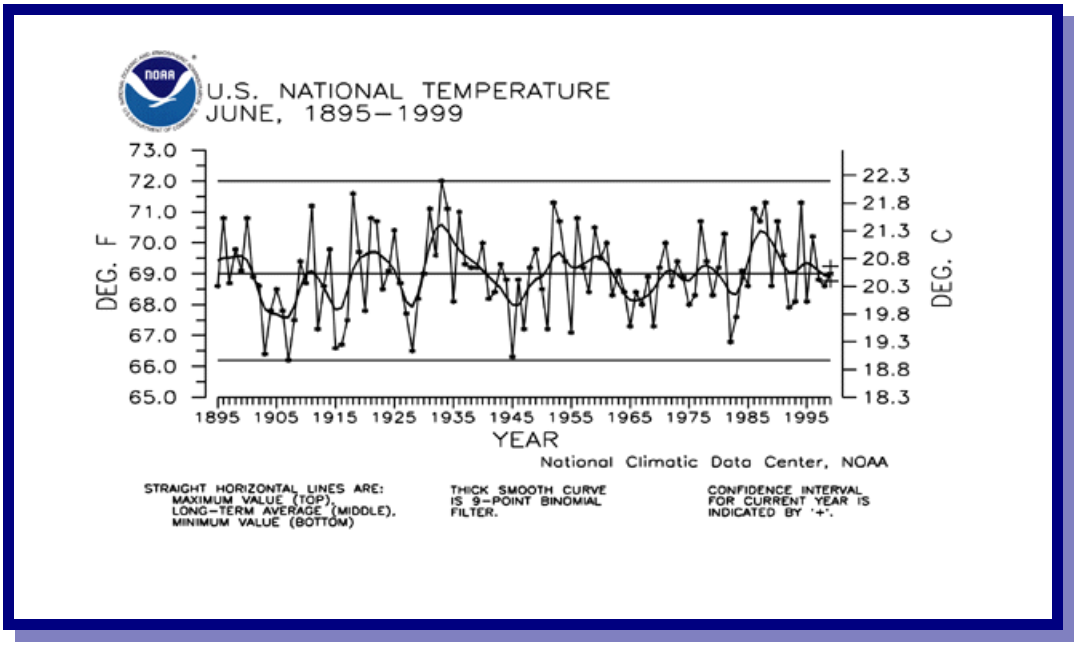
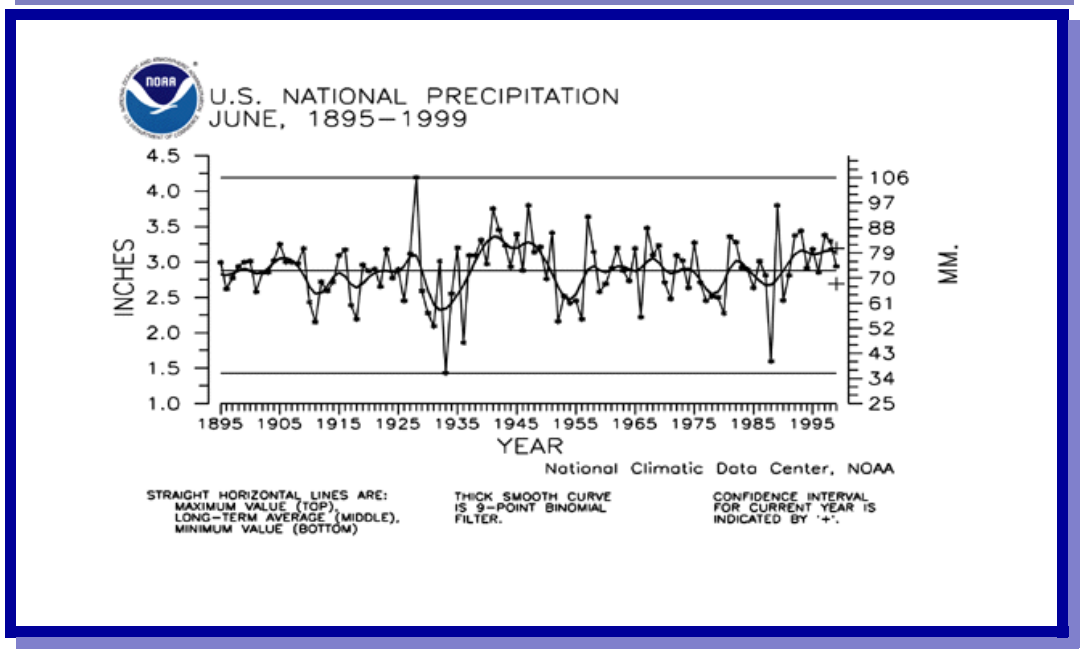
Monthly Activity Report

June 1999





Preliminary data for June 1999 indicate the monthly mean temperature averaged across the contiguous United States was near the long-term mean. About three percent of the country was much warmer than normal, while less than one percent of the country was much cooler than normal.

Based upon preliminary data, June 1999 precipitation averaged near the long-term mean. Over four percent of the country was much wetter than normal, while about seven percent of the country was much drier than normal.

DIRECTOR'S HIGHLIGHTS

Invitation

Catherine Godfrey, of the National Climatic Data Center, was invited by the Deputy Secretary of Commerce, Robert Mallett, to participate in discussions on the "Future of Employment in the Public Sector," June 17-18 in Washington, D.C. The Deputy Secretary invited 15 participants to "think outside the box" and discuss innovative changes in public employment. Mr. Mallett is holding these discussions in preparation for his participation in a conference addressing "Public Service in the 21st Century" later this month.

Travel to China

The National Climatic Data Center's Principle Scientist, David Easterling, traveled to Beijing, China, to attend the Department of Energy (DOE), Chinese Meteorological Agency (CMA), and Chinese Academy of Science (CAS) meetings. He presented recent results on analysis of climate extremes in the U.S. and summarized NCDC's project accomplishments for the past ten years. Because of his expertise on meteorological issues and having worked with the DOE on many other projects, he was asked to address the meetings and bring the CAS, as well as the CMA up to date on these issues.

Blue Ribbon Panel Meeting

Several individuals from the National Climatic Data Center (NCDC) assisted with development of specific climate change graphics products required by the NCDC Director and White House personnel for the Blue Ribbon Panel Meeting for the National Assessment on June 22, 1999.

CLIMATE DATA AND INFORMATION SERVICES

✦ Database Development

Satellite Data Products

The National Climatic Data Center is now archiving Advanced TIROS Operational Vertical Sounder System and Sea Surface Temperature (SST) Local Analysis (14 km) products through the automated IBM 3494 system. Plans are underway for archiving Microwave Surface and Precipitation Products System, Interactive Multisensor Snow and Ice Mapping System, Radiation Budget, and other SST products in the same manner.

Serially Complete Daily Data

The National Climatic Data Center (NCDC), Natural Resources Conservation Service (NRCS), and the Climate Diagnostic Center (CDC) are co-sponsoring a project to produce a serially complete data set of daily temperature and precipitation for the U.S. The source file is the NCDC TD3200 archive file of data from Cooperative and National Weather Service sites. The NRCS has completed work on stations west of the Mississippi River and plans to begin analysis of data for stations in the eastern half of the U.S. The data set covers the period 1951 -

1990. NCDC has rewritten UNISYS software to run on a UNIX platform and query the Oracle database to identify and inventory sites to be included in the project. Inventory files for each state and data element that define the data availability and quality will be produced over the next few weeks for download by CDC.

Correction of Global Climate Normals (GCN)

The 1961-1990 GCN were published in hard-copy form by the World Meteorological Society (WMO) in 1996, WMO/OMM-No.847, and written to CD-ROM by the National Climatic Data Center (NCDC) in 1998. Since release of the Normals, several errors have been identified by various countries and NCDC staff. Some of the data are incorrect in the publication, but correct on the CD-ROM, while other data are incorrect on the CD-ROM, but correct in the publication. The NCDC is compiling a list of the errors and correcting the master digital file. NCDC will write an errata sheet to be distributed with the CD-ROM and provide another errata sheet for publication errors to the WMO.

✦ Data and Information Distribution

Data By Country

As a result of an Interagency Agreement between the Department of Energy's Carbon Dioxide Information Analysis Center and the National Climatic Data Center, on-line, country-averaged time series (tabular and graphical) of monthly and annual temperatures for China, India, and the United States has been made available at http://www.ncdc.gov/ol/climate/online/doe/doe.html This product, based on the Global Historical Climatology Network, was developed in response to demand from the integrated assessment research community, under a project funded by the Integrated Assessment Research program of the U. S. Department of Energy's Office of Biological and Environmental Research.

Data Rescue News

The National Climatic Data Center (NCDC) has processed the first meteorological data array product from a rescued, keyed station: 16,000 daily observations from the Historical Climatology Network station in Greensboro, AL. There were very few errors. NCDC will run the validation software to determine how many of the errors can be corrected automatically.

Climate Data On-Line (CDO) Orders Increasing

On June 22, 1999, the National Climatic Data Center (NCDC) placed its new CDO system into full on-line operational mode. A total of 31 orders were placed in the next nine days. The CDO system contains 100 gigabytes of climate in-situ data stored in an Oracle relational database. Web users may now place orders through the system via the NOAA National Data Center's On-line Store, pay for the data with a credit card, and receive the data via ftp, all without any manual intervention by customer service personnel. It is expected that orders for climate data will continue to increase daily as customers discover the system. CDO now includes six full period of record data sets: cooperative summary of day (TD3200), first order summary of day (TD3210), monthly summary (TD3220), hourly precipitation (TD3240), 15-minute precipitation (TD3260), and monthly climatic data for the world (TD3500). Data can be selected by various combinations of country, state, climate division, county, station, year, month, and day. The CDO system has been in operational use to fill off-line orders since March and has performed well. The system is also used to process various applications requested off-line, such as the cooperative extremes tabulation. NCDC will advertise the system's availability over the next few weeks, to gradually increase system load. The next data sets to be added (now in their early stages) will be U.S./global surface hourly and U.S./global upper air.

ASOS Station CD/HPD Publication Restored

The National Climatic Data Center has restarted the publication of 53 second-order Automated Surface Observing System (ASOS) stations in the CD publication (with some also in the HPD). In the difficult period of implementation of ASOS processing, NCDC limited surface validation efforts to the 270+ first-order/LCD ASOS sites. Beginning in the March-May 1999 months, processing of the formerly published second-order ASOS stations has been restored. To do this, NCDC worked with the National Weather Service (NWS) in gathering and updating station metadata in the SHIPS database, which produces the CD and HPD Master Station Inventory production driver files. A procedure has been set up to add additional, previously unpublished ASOS stations to the surface validation system by NWS request.

NOAA KLM User's Guide

Seventy-five paper copies of the new National Oceanic and Atmospheric Administration (NOAA) KLM User's Guide are now available for limited distribution. A CD-ROM version is also being replicated for distribution. This CD-ROM information mirrors the web site at URL: http://www2.ncdc.noaa.gov/docs/klm/index.htm. The information on the CD is arranged as a series of HTML files that are linked to each other through the Welcome page (intro.htm).

Web System Updated

The National Climatic Data Center (NCDC) recently updated three of the web pages that are part of the Climatic Extremes/Weather Events system (http://www.ncdc.noaa.gov/extremes.html). The three are "El Niño/La Niña," "U.S. Tornadoes," and "U.S. Hurricanes." The three pages were updated to link to several additional data sets and reports related to their subject matter, such as links to NCDC reports on tornado outbreaks in January and May 1999, and to a report on the 1974 "super outbreak" of tornadoes.

Monthly Climate Report

The availability of the National Climatic Data Center's Monthly Climate report is being advertised via CLIMLIST, a moderated international electronic mail distribution list for persons undertaking research in climatology, teaching climatology, and providing services of a climatological nature. The climate monitoring group plans on expanding these promotional announcements to other groups and institutions.

Retrieving NEXRAD

An automated system for retrieving Next Generation Weather Radar (NEXRAD) Level III products has been submitted to the webmaster to activate for users linking to the National Climatic Data Center's (NCDC) Radar Resources Internet pages as soon as the Customer Order Management Processing System (COMPS) is implemented. Users will be able to select a station, date/time range, and specific products. The data will be automatically pulled from the Hierarchical Data Storage System and written to the NCDC anonymous ftp area in a compressed tar file. The user is automatically notified by e-mail when the file is ready to download. Files larger than 5mb will not be generated and the user will be advised to order the data off-line through Customer Service.

***Tropical Cyclones of the North Atlantic* Book**

Coordination continues on the update to the *Tropical Cyclones of the North Atlantic* Publication. Representatives from the Tropical Prediction Center will visit the National Climatic Data Center (NCDC) in late July. They will complete changes to the narrative and figures for the book which will be updated through the 1998 season. NCDC's primary responsibility will be to print the book and provide for distribution.

✦ Requests from News Media

Prominent New York Magazines Seek Satellite Imagery

The National Climatic Data Center (NCDC) was contacted by two prominent New York journal publishers who are writing articles on hurricanes. One publisher from *Natural History Magazine* was writing a story on the upcoming hurricane season, and the second publisher, representing *Maxim* Magazine, was corroborating an article about a ship which became entangled with Hurricane Mitch. The two publishers discovered NCDC's popular on-line images web site (www.ncdc.noaa.gov/ol/satellite/satellitedata.html) and selected several of the best satellite photographs for reproduction.

✦ Interesting Requests

Blackbeard's Flagship

A nautical archaeologist contacted the National Climatic Data Center (NCDC) to obtain meteorological data which will be used in a graduate thesis paper focusing on an historical shipwreck. The student is investigating the wreck of the notorious Queen Anne's Revenge, Blackbeard the pirate's flagship. Archives indicate the vessel ran aground in the mouth of Beaufort Inlet near Morehead City, NC, in the middle of June 1718. In order to determine the sequence of events surrounding the vessel's grounding and eventual destruction, the student will attempt to document the probable wind direction at the time of the incident. The NCDC offered hourly surface weather observations for the period mid-June (1984-1998) for Cape Lookout, NC.

Dallas Bids for 2012 Summer Olympics

The city of Dallas, TX, is in the process of bidding for the 2012 Summer Olympic Games. In order for the city to meet the requirements for application and to be able to anticipate weather conditions at the various Olympic events and venues, comprehensive climatological observations are required. The National Climatic Data Center is providing the Dallas Olympic Committee with 30 years of hourly weather observations from the Dallas-Fort Worth airport. Committee members are downloading this data via ftp and will analyze and customize this data set to better suit their specific climatological needs.

Row Row Row Your Boat

The National Climatic Data Center (NCDC) was contacted by a Florida law enforcement official investigating a missing boater. The case involves a kayaker who departed from Key West, FL, destined for the Bahamas in late January 1994. According to the gentleman's wife, it was not unusual for him to go "kayaking" for several months or a year or two, but five years seemed too long for local police officials. Marine forecasts from NCDC's Service Records Retention System (SRRS) for a one-month period were provided to the Monroe County Sheriff's Department in Key West, FL. In addition, the NCDC provided storm tracks for the period January through March 1994. This meteorological data will be used to explore the possibility that adverse weather conditions contributed to his disappearance.

GLOBE Program

The National Climatic Data Center (NCDC) has provided a series of satellite pictures to be used in a new educational module on Earth System Science in which Global Learning and Observations to Benefit the Environment (GLOBE) students will investigate the effects of a storm as it tracks across North America. The search of the Historical Geostationary Observations Earth Satellites (GOES) Browse Server identified a storm as it entered Southern California, swung across Arizona and Texas, up to the Ohio River Valley, then to New England and Nova Scotia. Ten infrared GOES-8 images were produced and sent to the program

coordinator. The GLOBE program is a worldwide network of students, teachers and scientists from 6,500 schools and over 80 countries working together to study and understand the global environment. The educational module will be available early next year.

New Science Book Explains Climate in Simple Terms

The National Climatic Data Center (NCDC) supplied several satellite images taken by the Polar-orbiting Operational Environmental Satellite (POES) in September of 1997 for use in a new science book. The images show India in a normal monsoon season. This book, the second in a series of Popular Science Magazine books (the first was called *The Universe Revealed*), will be aimed at people with an interest in, but not necessarily a prior knowledge of, science. It explains complicated atmospheric processes in an easy to understand way, with the help of satellite images. The book is divided into climatic zones.

USGS Assists South Pacific Island Nation

The United States Geological Survey (USGS) is providing land resource management assistance to the Federated States of Micronesia, an island chain in the south Pacific Ocean. These islands experienced severe drought conditions during the El Niño winter of 1998, and geologists are investigating enhanced methods for land and natural resource management during times of extreme climatic conditions. The USGS has obtained climatological data from the National Climatic Data Center's (NCDC) new Climate Data On-Line (CDO) system to assist in this project. Meteorological data from three south Pacific Cooperative climate stations in an electronic format were obtained for a 40-50 year period, to better ascertain the climatic trends of the region.

✦ Technology Applications

Tropical Cyclone "02A" was nicely captured by NOAA-14 on May 20, 1999, moving over southeastern Pakistan. This is the first image that the National Climatic Data Center was capable of producing using the GIS software called ENVI. ENVI provides the capability to geo-referenced, re-mapped, and displayed images in three channels with RGB color assignment. The image is highlighted at the on-line images section at: www.ncdc.noaa.gov/ol/satellite/olimages.html.

✦ Regional and State Climate Centers

Workshop Proposes Uniform Pricing for NCDC/RCCs

The National Climatic Data Center (NCDC) hosted a workshop for the customer service representatives from the Regional Climate Centers (RCC) during the month of June. Major topics of discussion included joint marketing plans and activities, including development of several published handouts and other descriptive information, establishing standard RCC prices, and the development of guidelines for a standard look for the entry RCC web page. Several briefings were given by the NCDC staff on topics such as the Next Generation Weather Radar (NEXRAD), the Climate Data On-line system, new products, normals, and the Customer Order Management Processing System (COMPS). The group also enjoyed the opportunity to interact among themselves since they rarely see each other. They have requested that the group meet at least twice per year, alternating between NCDC and the different Centers.

Southeast Regional Climate Center (SERCC) New Staffer

Dr. Mitchel Janis will be joining the SERCC staff

as a Research Climatologist during the month of August. Dr. Janis comes via the Indiana State and the University of Delaware programs in climatology. His specialties include statistical climatology, networking and data harmonization problems. He will be initially involved in the National Climatic Data Center initiative on the National Climate Reference Network, Southeastern mesonet opportunities, CIRRUS, Unified Climate Access Network (UCAN), and data QA/QC evolutions.

Northeastern State Climatologist Meetings

Steve Doty, of the National Climatic Data Center, participated in the meeting of the Northeastern State Climatologists hosted by the Northeast Regional Climate Center (NRCC). Ten of the twelve states in the region were represented. Each state climatologist presented a short overview of the activities in their state which ran from almost no activity to fully active offices. The NRCC presented their activities, services, and applied research which led to many long discussions as to potential cooperation. Many comments were received from the group relative to the National Climatic Data Center proposal for rejuvenating the State Climate Programs.

SCIENTIFIC AND PROFESSIONAL ACTIVITIES

✦ Working Groups/Committees/ Meetings

UNISPACE III Exhibition

Tom Ross, of the National Climatic Data Center, accepted an invitation to participate as one of the National Oceanic and Atmospheric Administration's delegation at the UNISPACE III Exhibition in Vienna, Austria, on July 14-24, 1999. UNISPACE III is the third global gathering of United Nations members to discuss the peaceful uses of outer space. The exhibition will showcase global achievements of space technology, and highlight current and future development tools. Specialized agencies of the United Nations, including the World Meteorological Organization and the Food and Agricultural Organization, as well as agencies from more than 150 nations, non-governmental space organizations, manufacturers and users of space technology and government decision-makers will be in attendance.

Radiosonde Replacement System

Bruce Baker, of the National Climatic Data Center (NCDC), attended the National Weather Service's (NWS) Radiosonde Replacement System (RRS) meetings June 7-9, in Silver Spring, MD. The NWS anticipates a new software and computer package to be in place by June 2000. This phase will still use MicroArt core software, but will add functionality to acquire, process, display and disseminate through a newly designed interface. Initially, NCDC will receive data via zip drives, using systems identical to NWS for ingest, quality control, and archive precipitation. For the longer term, NWS and NCDC will investigate use of ftp for data acquisition. The addition of Global Positioning System capability to the new radiosondes is planned for late FY2001. Also within the new RRS program will be new surface instrumentation that will include the measurement of surface pressure, wind speed and direction, temperature and relative humidity. Dr. Baker will check the algorithm used to calculate dew point from relative humidity, temperature, and pressure.

Climate Extremes Committee

The National Climatic Data Center's Chair of the National Climate Extremes Committee, together with other Committee members from the National Weather Service and the Western Region Climate Center, traveled to Mt. Baker, WA, on June 7th and 8th to gather data and information concerning a potential national annual snowfall record for the 1998-99 season at a reporting site at Mt. Baker. While at the site, committee members were interviewed by Seattle affiliates for NBC and Fox, and by CBS National News. A news segment outlining the National Oceanic and Atmospheric Administration's role in validating national climate extremes was broadcast on the CBS National News on the evening of June 9th. A final determination of the validity of the seasonal report will be made in the next few weeks.

Rooftop Bias Study

The National Climatic Data Center sent a representative to the Earth System Data and Information Management (ESDIM) funded Rooftop Bias Study during the week of June 28th. Other participants were from the Colorado Climate Center, National Weather Service (NWS) Western Region Headquarters, NWS Office of Meteorology, and WRC-TV, Washington, D.C. The study objectives include quantifying biases that rooftop measurements exhibit under different synoptic conditions and instrument exposures, and providing data users with information on the effects these biases are having on the representativeness and usefulness of temperature data which have been (and could be) collected and distributed by the National Oceanic and Atmospheric Administration. The project is expected to have a duration of two years. There was an organizational meeting in Ft. Collins, CO, and then a field trip to several unofficial and/or collocated Cooperative sites near Riverton, WY.

Eastern Snow Conference

A National Climatic Data Center (NCDC) representative attended the Eastern Snow Conference in Fredericton, New Brunswick, Canada June 2-4. He presented 2 papers entitled "*Cooperative Station Snow Climatologies*" and "*Urbana, Illinois: 20th Century Snowfall Variations and Non-Climatic Influences*." The initial paper summarizes work he did with the NCDC and the Federal Emergency Management Agency in developing definitive snow statistics data for over 5,000 sites in the U.S.

Workshop Participation

At the request of the Environmental Adaptation Research, Group Atmospheric Environment Service, Canada, the National Climatic Data Center's Principle Scientist, David Easterling, participated in the workshop *"Climate Scenarios for the Canadian Impacts Community - Identifying the Needs"* at a site near Montreal, Canada. This workshop is a first step in the Canadian effort to perform an assessment of the potential impacts of climate change.

Atmospheric Observation

Tom Peterson, of the National Climatic Data Center, attended the Expert Team on Observational Data Requirements and Redesign of the Global Observing System meeting in Madison, WI, June 23-25. The Atmospheric Observation Panel for Climate, formed under the Global Climate Observing System auspices within the World Meteorological Organization (WMO), deemed it important for one of its members to represent climate interests at this WMO meeting.

ASHRAE Meeting

Marc Plantico, of the National Climatic Data Center, participated in the Annual American Society of Heating, Refrigeration and Air

Conditioning Engineers (ASHRAE) meeting in Seattle, WA, June 19-23, 1999. He is a member of the Weather Information Technical Committee, the Research Subcommittee and the Handbook Subcommittee. He is also on the Project Monitoring Subcommittee for the project to develop Typical Weather Years for international locations.

✦ Interactions with NOAA Line Offices

Hurricane Precipitation Data Studied

Dr. Libby Johns, of the Atlantic Oceanographic and Meteorological Laboratory, was supplied daily precipitation data for Cooperative locations in Florida Climate Divisions 4, 5, 6, and 7 via the National Climatic Data Center's (NCDC) anonymous ftp site. Dr. Johns intends to use the data in her research regarding precipitation expectations with land falling hurricanes in the South Florida area. The data were extracted using NCDC's On-line Climate Data system, which is under development. Approximately 14 megabytes of data were pulled and placed on the ftp server for downloading. Once the on-line system is operating, customers will be able to access the data and place orders themselves using a series of web pages.

EMPLOYEE ACTIVITIES

✦ EEO and Community Outreach

Educators in Industry

John Hughes represented the National Climatic Data Center (NCDC) at the Educators in Industry Mentor Orientation Program at the Asheville Chamber of Commerce June 9th. All those in attendance related past experiences from this Teacher Mentoring program. Ms. Laura Roberts, a Science Teacher at Enka High School, will be visiting NCDC July 21-23. As a part of her orientation at NCDC, Ms. Roberts will develop two integrated lesson plans for use by her class. These lesson plans will also be made available to all other science classes in the Buncombe County School System.

✦ Training

Geographic Information System (GIS)

About 20 National Climatic Data Center employees are taking a 10-week GIS class. In addition to lecture, there is a hands-on lab section as well. The class meets weekly and consists of a 1 hour lecture followed by a 1½ hour lab section which uses the PC GIS maptool ArcView.

Communications Seminar

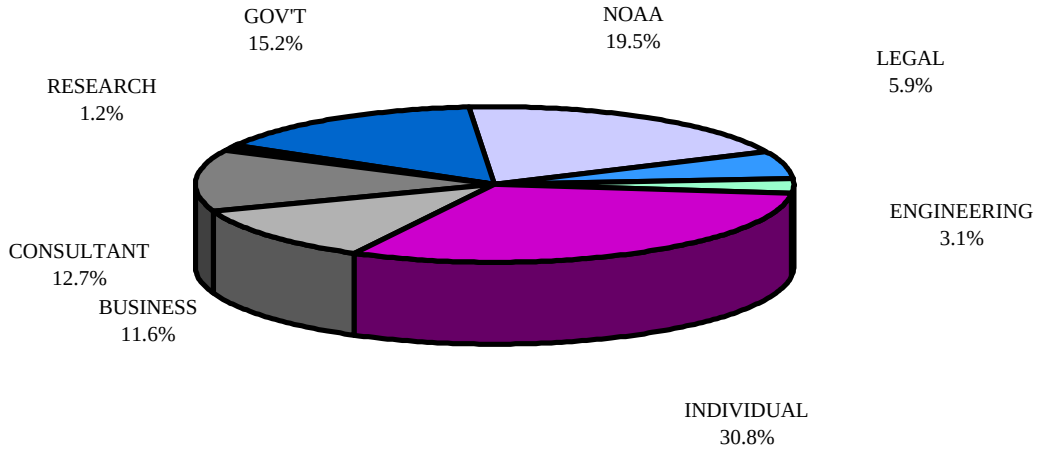
Doug Snowden and Steve Evans attended the "State of the Wide Area Network (WAN)" seminar in Atlanta, GA. The free seminar was held by Network World magazine which included journalists and top vendors from the WAN industry. An over-arching theme was the convergence of data, video, and voice (including phone service) onto existing networks. In addition to the general sessions, there were two main discussion tracks, Frame Relay and Asynchronous Transfer Method (ATM).

The following charts and graphs show the latest National Climatic Data Center user and data statistics.

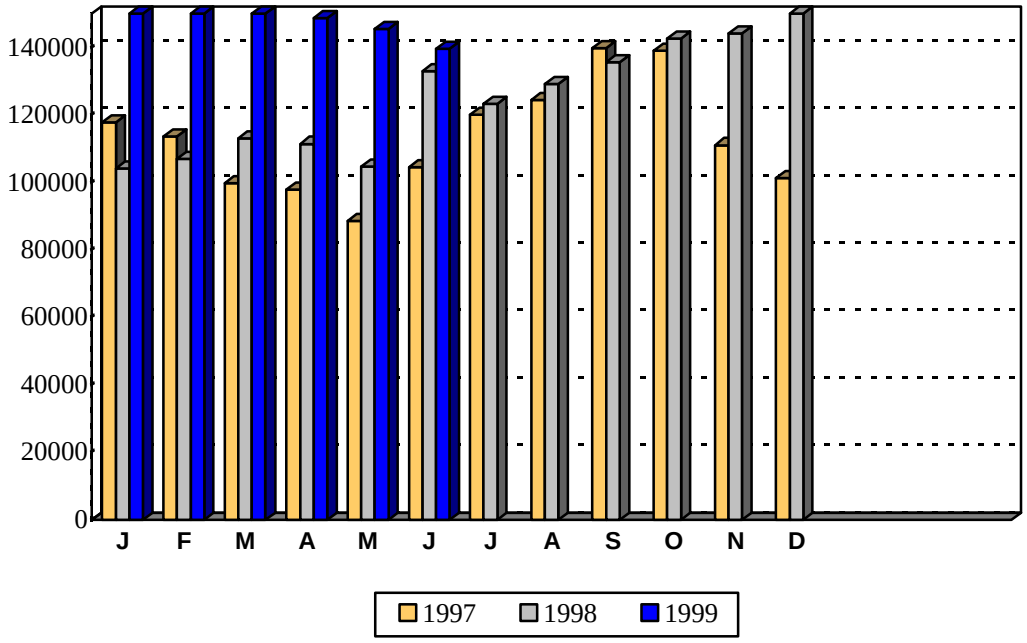
Customer Profile Based on Orders

No graph available for June.

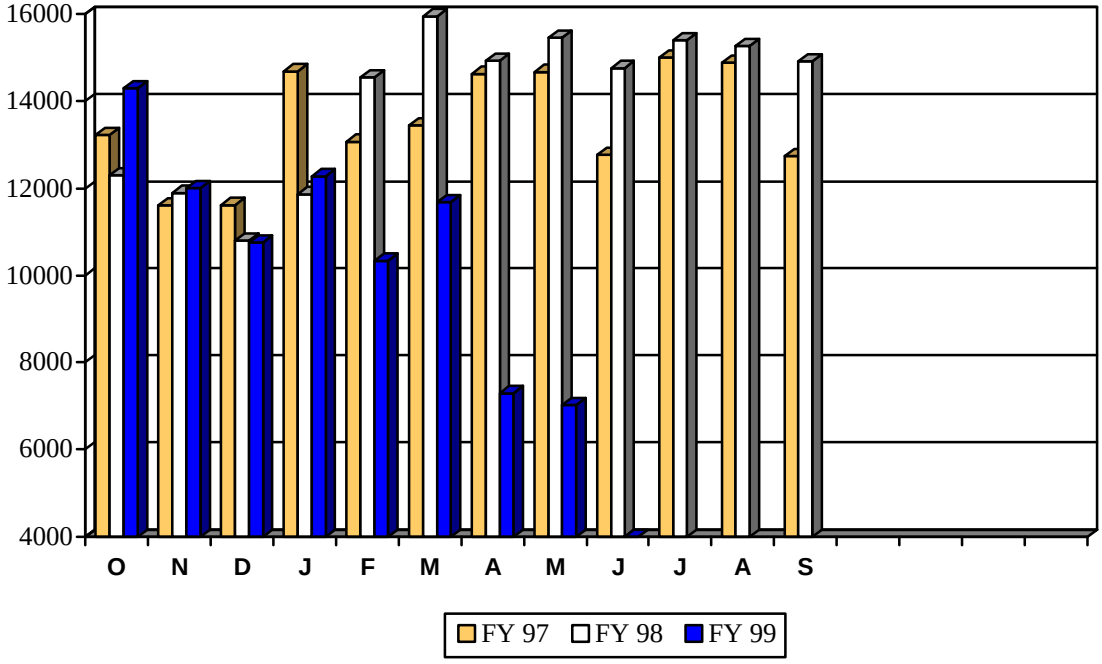
Customer Profile Based on Order Cost

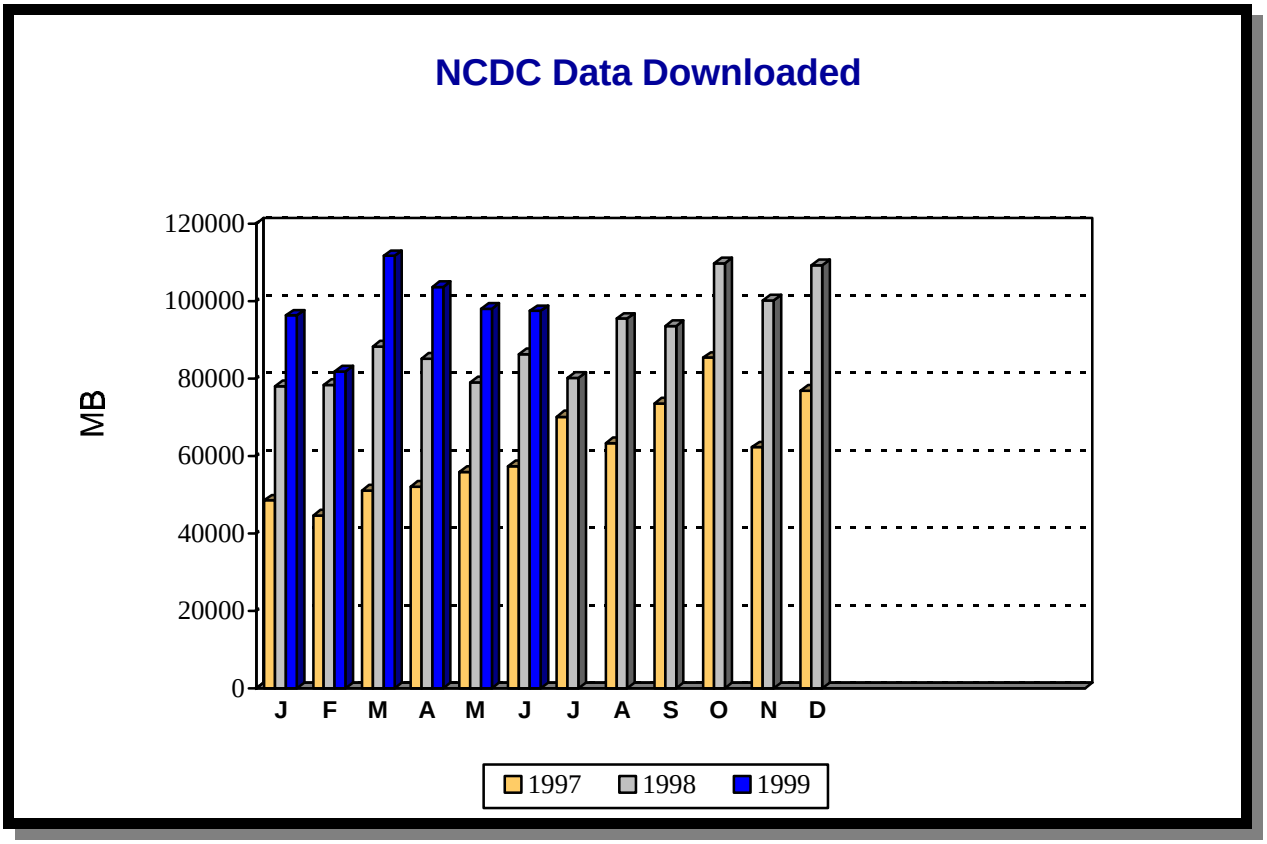


NCDC On-Line Users



NCDC Off-Line Customer Contacts




NCDC Data Downloaded
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60000
40000
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0
J F M A M J J A S O N D
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1998
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